

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

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Applicant's or agent's file reference PO45400PCT BOE/jdo	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/NL 03/00552	International filing date (day/month/year) 31.07.2003	Priority date (day/month/year) 31.07.2002
International Patent Classification (IPC) or both national classification and IPC A23L1/164		
Applicant QUEST INTERNATIONAL B.V. et al		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 3 sheets.
3. This report contains indications relating to the following items:
 - I Basis of the opinion
 - II Priority
 - III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV Lack of unity of invention
 - V Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI Certain documents cited
 - VII Certain defects in the international application
 - VIII Certain observations on the international application

Date of submission of the demand 12.02.2004	Date of completion of this report 04.11.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer Vuillamy, V Telephone No. +31 70 340-3504



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/NL 03/00552

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-10 as originally filed

Claims, Numbers

1-15 filed with telefax on 30.06.2004

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- the description, pages:
- the claims, Nos.:
- the drawings, sheets:

5. This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/NL 03/00552

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes:	Claims	1-15
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-15
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-15
	No:	Claims	

2. Citations and explanations

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/NL 03/00552

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents:

D1: GB-A-1257720

D3: US-A-4910031

D4: US-A-4738865

V.1/ The subject-matter of claims 1, 2 and 15 is new (Article 33(2) PCT) over the available prior art. None of the available documents discloses the specific combination of:

- a particle size of greater than 0.5 mm for the toppings
- a binder composition of 5-40% maltodextrines, dextrins, edible polymers, arabic gum, guar gum or cellulose derivatives and 5-40% mono- or disaccharides

in a 2-step coating process and 2-layer coated product.

V.2/ The document D3 is regarded as being the closest prior art to the subject-matter of claims 1, 2 and 15, and discloses(cf. col.1, I.42 - I.26; col.3, I.9-15; col.3, I.35-51; col.4, I.30-44; col.5, I.25-30; ex.II, III; claims 1, 2, 16, 36) a snack product coated with toppings (eg particulate solids combined with oil), then with a binding layer comprising 25-50% water and 50-75% sugars (sucrose, lactose, maltodextrins, fructose syrups, polydextrose or syrup solids). Examples of toppings mentioned in D3 are coarse or fine salts as well as flavorings powders and granules.

The subject-matter of claims 1, 2 and 15 differs from this teaching by the particle size of the particulate toppings (greater than 0.5 mm), and by the selection of a mixture of 5-40% mono- or disaccharides (binder) and 5-40% maltodextrines, dextrins, edible polymers, arabic gum, guar gum or cellulose derivatives (co-binder) as overcoating binding layer, with a binder:co-binder ratio 5:1 to 1:1 ratio .

The problem to be solved by the present invention may be regarded as the provision of a process for adhering toppings having a particle size greater than 0.5 mm, without requiring a sweetness suppressor.

The selected binder composition provides better adhesion for the coarse toppings in the first layer with less sugar (no sweetness suppressor needed).

The solution to this problem proposed in claims 1, 2 or 15 of the present application is considered as involving an inventive step (Article 33(3) PCT). D3 does not mention the particle size of the toppings, and only mentions several possible binders, including mono- or disaccharides, maltodextrines, polydextrose or fructose syrups. D3 teaches away from the claimed composition because it discloses the use of high level of sucrose (>50%).

The skilled person would further not find in D1 nor D4 any incentive to modify the coating of D3 to come to the claimed invention. In D1, only 4% sucrose or less is added to a dextrin-based binder as a flavouring, not as a co-binder . In D4, a dextrin and sugar composition is used as a tacky layer, not as an overcoat, and the high maltodextrin:sugar ratio disclosed teaches away from the invention. Neither D1 nor D4 addresses the problem of toppings having a particle size greater than 0.5 mm.

Claims

1. A method for preparing a coated food product comprising:
 - (a) coating the food product in a first step with a layer of a liquid mixture comprising toppings with a size greater than 0.5mm and an oil or fat;
 - (b) coating the coated food product obtained in step (a) in a second step with a layer of a second liquid mixture comprising:
 - (i) 5 to 40 wt.% of a binder selected from the group consisting of maltodextrines having a dextrin equivalent in the range of 0.1 to 10, dextrin, edible polymers, arabic gum, guar gum and cellulose derivatives;
 - (ii) 5 to 40 wt.% of a co-binder selected from the group consisting of monosaccharides, disaccharides and mixtures thereof; and
 - (iii) 20 to 90 wt.% water
 - (c) drying the coated food product obtained in step (b); and wherein in step b) the weight ratio in the second liquid mixture of binder to co-binder is of from 5:1 to more than 1:1.
2. A method for preparing a coated food product comprising:
 - a) coating the food product in first step with a layer of an oil or fat and the simultaneous or subsequent coating of said product with a layer of toppings with a size greater than 0.5 mm;
 - b) coating the coated food product obtained in step (a) in a second step with a layer of a second mixture comprising:
 - (i) 5 to 40 wt.% of a binder selected from the group consisting of maltodextrines having a dextrin equivalent in the range of 0.1 to 10, dextrin, edible polymers, arabic gum, guar gum and cellulose derivatives;
 - (ii) 5 to 40 wt.% of a co-binder selected from the group consisting of monosaccharides, disaccharides and mixtures thereof; and
 - (iii) 20 to 90 wt.% water

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- c) drying the coated food product obtained in step (b); and wherein in step b) the weight ratio in the second liquid mixture of binder to co-binder is of from 5:1 more than 1:1.
- 5 3. The method according to either one of claim 1 or 2, wherein the coated food product obtained in step (a) is dried.
- 4. The method according to any of the preceding claims, wherein the food product is selected from the group consisting of oven baked food products, deep fried crisps, extruded products, toasted products, dry roasted nuts and general dry food products having a water content of less than 5 percent by weight, calculated in the total weight of said general dry food product, said general dry food product being made of materials selected from the group consisting of cereals, preferably wheat and corn, potato and rice.
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- 15 5. The method of claim 4 wherein the oven baked food product is selected from the group consisting of biscuits, cookies, pretzels, crackers, toast and snacks.
- 6. The method of claim 4 or claim 5, wherein the oven baked food product are pretzels.
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- 7. The method according to claim 4, wherein the extruded products are deep fried after extrusion.
- 25 8. The method according to any one of the preceding claims, wherein the oil or fat is selected from the group consisting of edible and vegetable oils.
- 9. The method according to any one of the preceding claims, wherein the edible polymers are selected from the group consisting of protein, starches and polysaccharides.
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10. The method according to any one of claims 1-9, wherein the first liquid mixture comprising a topping and an oil or fat comprises 5.0 to 60.0 percent by weight of topping and 40.0 to 95.0 percent by weight of the oil or fat, based in the total weight of the mixture.
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11. The method according to any one of the preceding claims, wherein the weight ratio of binder to co-binder in the second liquid mixture is between 3:1 to 1.1:1.
12. The method according to any one of the preceding claims, wherein in step (c) the food product is dried to a moisture content of not more than about 7%.
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13. The method according to any one of the preceding claims, wherein the topping has an average size of at least 0.5mm with more than 50% of the topping particles with a size greater than or equal to 1mm.
- 15
14. The method according to any one of the preceding claims, wherein the second liquid mixture further comprises a flavour enhancer, preferably is a yeast.
15. A coated food product obtainable by method according to any one of claims 1-14.